

L. Helms

1642HELMS

ATTACHED  
PAGE 2

PAGE: 1

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/250,056A

DATE: 09/28/1999  
TIME: 14:59:56

Input Set: I250056A.RAW

This Raw Listing contains the General Information  
Section and up to first 5 pages.

# 8  
**ENTERED**

1 <110> APPLICANT: Marks, James D  
2 Poul, Marie A  
3 <120> TITLE OF INVENTION: INTERNALIZING ERB2 ANTIBODIES  
4 <130> FILE REFERENCE: 2500.116US3 Internalizing ErbB2 Ab  
5 <140> CURRENT APPLICATION NUMBER: US/09/250,056A  
6 <141> CURRENT FILING DATE: 1999-02-12  
7 <150> EARLIER APPLICATION NUMBER: 60/082,953  
8 <151> EARLIER FILING DATE: 1998-04-24  
9 <160> NUMBER OF SEQ ID NOS: 4  
10 <170> SOFTWARE: PatentIn Ver. 2.0  
11 <210> SEQ ID NO 1  
12 <211> LENGTH: 246  
13 <212> TYPE: PRT  
14 <213> ORGANISM: Artificial Sequence  
15 <220> FEATURE:  
16 <223> OTHER INFORMATION: Description of Artificial Sequence: scFv F5 amino  
17 acid sequence  
18 <220> FEATURE:  
19 <221> NAME/KEY: DOMAIN  
20 <222> LOCATION: (31)..(35)  
21 <223> OTHER INFORMATION: VH-CDR1  
22 <220> FEATURE:  
23 <221> NAME/KEY: DOMAIN  
24 <222> LOCATION: (50)..(66)  
25 <223> OTHER INFORMATION: VH-CDR2  
26 <220> FEATURE:  
27 <221> NAME/KEY: DOMAIN  
28 <222> LOCATION: (99)..(108)  
29 <223> OTHER INFORMATION: VH-CDR3  
30 <220> FEATURE:  
31 <221> NAME/KEY: DOMAIN  
32 <222> LOCATION: (157)..(170)  
33 <223> OTHER INFORMATION: VL-CDR1  
34 <220> FEATURE:  
35 <221> NAME/KEY: DOMAIN  
36 <222> LOCATION: (186)..(192)  
37 <223> OTHER INFORMATION: VL-CDR2  
38 <220> FEATURE:  
39 <221> NAME/KEY: DOMAIN  
40 <222> LOCATION: (225)..(235)  
41 <223> OTHER INFORMATION: VL-CDR3  
42 <400> SEQUENCE: 1  
43 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
44 1 5 10 15

PAGE: 2

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/250,056A

DATE: 09/28/1999  
TIME: 14:59:56

Input Set: I250056A.RAW

```

45      Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser Tyr
46                20                25                30
47      Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
48                35                40                45
49      Ser Ala Ile Ser Gly Arg Gly Asp Asn Thr Tyr Tyr Ala Asp Ser Val
50                50                55                60
51      Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
52                65                70                75                80
53      Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
54                85                90                95
55      Ala Lys Met Thr Ser Asn Ala Phe Ala Phe Asp Tyr Trp Gly Gln Gly
56                100               105               110
57      Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
58                115               120               125
59      Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
60                130               135               140
61      Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser
62      145                150                155                160
63      Ser Asn Ile Gly Ala Gly Tyr Gly Val His Trp Tyr Gln Gln Leu Pro
64                165                170                175
65      Gly Thr Ala Pro Lys Leu Leu Ile Tyr Gly Asn Thr Asn Arg Pro Ser
66                180                185                190
67      Gly Val Pro Asp Arg Phe Ser Gly Phe Lys Ser Gly Thr Ser Ala Ser
68                195                200                205
69      Leu Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys
70                210                215                220
71      Gln Phe Tyr Asp Ser Ser Leu Ser Gly Trp Val Phe Gly Gly Gly Thr
72      225                230                235                240
73      Lys Leu Thr Val Leu Gly
74                245

```

75 &lt;210&gt; SEQ ID NO 2

76 &lt;211&gt; LENGTH: 242

77 &lt;212&gt; TYPE: PRT

78 &lt;213&gt; ORGANISM: Artificial Sequence

79 &lt;220&gt; FEATURE:

80 <223> OTHER INFORMATION: Description of Artificial Sequence: scFv C1 amino  
81 acid sequence

82 &lt;220&gt; FEATURE:

83 &lt;221&gt; NAME/KEY: DOMAIN

84 &lt;222&gt; LOCATION: (31)..(35)

85 &lt;223&gt; OTHER INFORMATION: VH-CDR1

86 &lt;220&gt; FEATURE:

87 &lt;221&gt; NAME/KEY: DOMAIN

88 &lt;222&gt; LOCATION: (50)..(66)

89 &lt;223&gt; OTHER INFORMATION: VH-CDR2

90 &lt;220&gt; FEATURE:

91 &lt;221&gt; NAME/KEY: DOMAIN

92 &lt;222&gt; LOCATION: (99)..(108)

93 &lt;223&gt; OTHER INFORMATION: VH-CDR3

94 &lt;220&gt; FEATURE:

PAGE: 3

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/250,056A

DATE: 09/28/1999  
TIME: 14:59:56

Input Set: I250056A.RAW

```

95 <221> NAME/KEY: DOMAIN
96 <222> LOCATION: (157)..(167)
97 <223> OTHER INFORMATION: VL-CDR1
98 <220> FEATURE:
99 <221> NAME/KEY: DOMAIN
100 <222> LOCATION: (184)..(190)
101 <223> OTHER INFORMATION: VL-CDR2
102 <220> FEATURE:
103 <221> NAME/KEY: DOMAIN
104 <222> LOCATION: (223)..(231)
105 <223> OTHER INFORMATION: VL-CDR3
106 <400> SEQUENCE: 2
107   Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
108       1             5             10             15
109   Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
110             20             25             30
111   Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
112             35             40             45
113   Ser Ser Ile Ser Gly Ser Ser Arg Tyr Ile Tyr Tyr Ala Asp Ser Val
114             50             55             60
115   Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
116             65             70             75             80
117   Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
118             85             90             95
119   Ala Lys Met Asp Ala Ser Gly Ser Tyr Phe Asn Phe Trp Gly Gln Gly
120             100            105            110
121   Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
122             115            120            125
123   Ser Gly Gly Gly Gly Ser Glu Thr Thr Leu Thr Gln Ser Pro Ser Phe
124             130            135            140
125   Leu Ser Ala Phe Val Gly Asp Arg Ile Thr Ile Thr Cys Arg Ala Ser
126             145            150            155            160
127   Pro Gly Ile Arg Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys
128             165            170            175
129   Ala Pro Lys Leu Leu Ile Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val
130             180            185            190
131   Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
132             195            200            205
133   Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
134             210            215            220
135   Tyr Asn Ser Tyr Pro Leu Ser Phe Gly Gly Gly Thr Lys Val Glu Ile
136             225            230            235            240
137   Lys Arg
138 <210> SEQ ID NO 3
139 <211> LENGTH: 738
140 <212> TYPE: DNA
141 <213> ORGANISM: Artificial Sequence
142 <220> FEATURE:
143 <223> OTHER INFORMATION: Description of Artificial Sequence: nucleic acid
144   encoding scFv F5 Ab

```

PAGE: 4

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/250,056A

DATE: 09/28/1999

TIME: 14:59:56

Input Set: I250056A.RAW

145 <400> SEQUENCE: 3  
 146 caggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctgggggggtc cctgagactc 60  
 147 tcctgtgcag cctctggatt cacctttcgc agctatgcca tgagctgggt ccgccaggct 120  
 148 ccaggaagg ggctggagt ggtctcagct attagtgggtc gtggtgataa cacatactac 180  
 149 gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240  
 150 ctgcaaatac acagcctgag agccgaggac acggccggtt attactgtgc gaaaatgaca 300  
 151 agtaacgcgt tcgcatttga ctactggggc caggaacccc tggtcaccgt ctccctcagg 360  
 152 ggaggcgggt caggcggagg tggctctggc ggtggcggat cgcagtctgt gttgacgcag 420  
 153 ccgccctcag tgtctggggc cccagggcag agggtcacca tctcctgcac tgggagcagc 480  
 154 tccaacatcg gggcaggtta tgggtgtacac tggtagcagc agcttccagg aacagccccc 540  
 155 aaactcctca tctatggtaa caccaatcgg cctcagggg tccctgaccg attctctggc 600  
 156 ttcaagtctg gcacctcagc ctccctggcc atcactgggc tccaggtctg ggatgaggct 660  
 157 gattattact gccagttcta tgacagcagc ctgagtgggt ggggtgttcg cggaggggacc 720  
 158 aagctgaccg tgctaggt 738

159 &lt;210&gt; SEQ ID NO 4

160 &lt;211&gt; LENGTH: 726

161 &lt;212&gt; TYPE: DNA

162 &lt;213&gt; ORGANISM: Artificial Sequence

163 &lt;220&gt; FEATURE:

164 <223> OTHER INFORMATION: Description of Artificial Sequence: Nucleic acid  
 165 encoding scFv C1 amino acid sequence

166 &lt;220&gt; FEATURE:

167 &lt;221&gt; NAME/KEY: modified\_base

168 &lt;222&gt; LOCATION: (111)

169 &lt;223&gt; OTHER INFORMATION: N = A, C, G, OR T

170 &lt;400&gt; SEQUENCE: 4

w--OK  
 171 caggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctgggggggtc cctgagactc 60  
 172 tcctgtgcag cctctggatt caccttttagc agctatgcca tgggctgggt ccgccaggct 120  
 173 ccaggaagg ggctggagt ggtctcatca attagtggca gtagtagata catatattac 180  
 174 gcagactccg tgaagggccg gttcaccatc tcccgagaca attccaagaa cacgctgtat 240  
 175 ctgcaaatac acagcctgcg agccgaggac acggccggtt attactgtgc gaaaatggat 300  
 176 gcttcgggga gttattttta tttctggggc cagggcaccc tggtcaccgt ctccctcagg 360  
 177 ggaggcgggt caggcggagg tggctctggc ggtggcggat cggaaacgac actcacgcag 420  
 178 tctccatcct tcctgtctgc atttgttaga gacagaatca ccatcacttg ccgggccagt 480  
 179 ccgggcatta ggaattattt agcctgggtat cagcaaaaac cagggaaagc ccctaagctc 540  
 180 ctgatctatg ctgcattctac tttgcaaagt ggggtcccat caaggttcag cggcagtggg 600  
 181 tctgggacag attttactct caccatcagc agcctgcagc ctgaagattt tgcaacttat 660  
 182 tattgtcaac aatataatag ttaccctctc agtttcggcg gagggaccaa ggtggagatc 720  
 183 aaacgt 726

PAGE: 5

VERIFICATION SUMMARY  
PATENT APPLICATION US/09/250,056A

DATE: 09/28/1999  
TIME: 14:59:56

Input Set: I250056A.RAW

Line	? Error/Warning	Original Text
172	W "N" or "Xaa" used: Feature required	tcctgtgcag cctctggatt cacctttagc agctatgc